

different districts of Mexico. The period of the year when temperature is highest is also the period when the air is driest, the mean relative humidity of Mexico for April and May for 1878 and 1879 being only 42. The mean temperature of Tlacotalpam, the lowest station, was $77^{\circ}5$, and of Zacatecas, the highest from which mean temperatures are published, $61^{\circ}7$. The difference of the two is thus $15^{\circ}8$, and as the difference of height is 8178 feet, the fall of temperature with the height is comparatively slow, being only one degree for each 518 feet.

At Mexico during 1879, out of the 8760 observations made of the wind, 4156 cases were reported as calm, being nearly a half of the whole of the observations. By far the most frequent wind is the north-west, which was observed 1299 times; next follow the north-east, 789 times, and north 636 times; and the least frequent, south, 174 times, and south-west 278 times. As regards direction, the prevailing winds at Mexico were a point to the north of east in February and March, from which they gradually worked round to north-east in the beginning of May, north in July, north-west in September, thence again to north in the end of November, and back to east in February. On these changes of the wind, considered with reference to the Gulf of Mexico and the Pacific, largely depends the rainfall. The rainy season extends from about the middle of May to the end of October; but at eastern stations' showers are of not infrequent occurrence from November to April, when prevailing winds are northerly and easterly. The largest annual rainfall was 89.16 inches at Tlacotalpam, and the least 15.66 inches at San Luis Potosí. Thunder and lightning are of common occurrence during the summer months, these phenomena occurring on 66 per cent. of the days during June, July, and August. During the five months from December to April thunderstorms occur only on 7 per cent. of the days. The position of Mexico, as already stated, marks it out as a region peculiarly suited for the investigation of some of the more interesting meteorological problems, particularly those which concern the vertical distribution of the phenomena, in connection with which an increase to the number of low-level stations on the Gulf of Mexico and the Pacific sea-boards is very desirable.

ON THE IDENTITY OF SOME ANCIENT DIAMOND MINES IN INDIA, ESPECIALLY THOSE MENTIONED BY TAVERNIER

HAVING recently endeavoured to correlate the diamond deposits of India, I have been surprised to find what a mass of contradiction exists in both Indian and English literature as to the identity of some of the most famous mines which were worked little more than 200 years ago.

In this brief account I propose to give results, not the steps which have led me to them. Tavernier about the middle of the seventeenth century visited and described three diamond-mines, which were named respectively Raolconda in the Carnatic, Gani, called Coulour by the Persians, and Soumelpour on the Gonal River.

Raolconda, Tavernier says, was five days distant from Golconda and eight or nine from Bijapur, and most writers with signal unsuccess have tried to fix it accordingly. But elsewhere Tavernier gives nine stages, aggregating probably 189 miles, on the road from Golconda to Raolconda, so that in the first statement the distances were probably transposed. With these new indications we are led to an old town called Rawdukonda, lat. $15^{\circ}41'$, long. $76^{\circ}50'$. I have not yet succeeded in obtaining any independent testimony of the existence of diamond-mines at this locality, but hope to be able to hear more about it ere long.

Gani, or Coulour, where Tavernier says the Great Mogul diamond was found in the sixteenth century, has been variously located by authors, being supposed by

many to be identical with Gani Purtial, on the Kistua River; but I am satisfied from the evidence afforded by old maps that it is to be identified with Kollur, lat. $16^{\circ}42'30''$, long. $80^{\circ}5'$, which is also on the Kistna, about twenty-six miles further to the west. Now as to this word Gani, which has been treated of as a proper name, its recurrence in connection with two different localities suggests that it means mine. In fact since G and K are interchangeable letters in some Indian languages we should probably read for Gani *Kan-i*, or the mine of Purtial or of Kollur.

If, as seems most probable, the Koh-i-nur is identical with the Great Mogul diamond described by Tavernier, and that the great age claimed for it by the Hindus is to be regarded as mythical, then in fact for the first time the identity of the source from whence this famous diamond was obtained may be regarded as settled. Maps of the eighteenth century indicate diamond mines at Gani (*i.e.* Kan-i) Kollur, though local memory of their former existence appears to have died out.

Soumelpour, on the Gonal River of Tavernier, has generally by recent authors been identified with Sambalpur, on the Mahanadi, in the Central Provinces. But Tavernier's somewhat precise indication of its position has led me to the conclusion that it was situated much further to the north, namely, in the valley of the Koel River, a tributary of the Sone. At about the distance stated by Tavernier (which I calculate to be the equivalent of eighty miles), to the south of the well-known fortress of Rhotas, there are near the banks of the Koel River (*i.e.* Tavernier's Gonal) the remains of an ancient town called Semah, which word is identical with *Semul* (the native name of a species of cotton-tree, *Bombax Malabaricum*), Semulpour, or the town of the *Semul*, is therefore, it seems probable, Tavernier's Soumelpour. The position of Semah is lat. $23^{\circ}45'$, long. $84^{\circ}21'$; it is included in the sub-division of Palamow, in the Chutia Nagpur Province. There is independent evidence of important diamond mines having existed in a neighbouring part of Chutia Nagpur in the sixteenth century, but there have been none in operation there for many years.

The last locality is Beeragurh, which is mentioned in the *Ain-i-Akbari*, and also in several other native writings. This is unquestionably identical with the modern Wairagarh in the Chanda district of the Central Provinces, where excavations locally known to have been diamond mines are still to be seen. Wairagarh is in lat. $20^{\circ}26'$, long. $80^{\circ}10'$. Many allusions which I believe to refer to this locality might be quoted. One of the fifteenth century by Nicolo Conti is of especial interest. He says that at Albenigaras, fifteen days journey north of Bijapur (Bijengalia), there is a mountain which produces diamonds. The method of obtaining them, which he describes on hearsay, is similar to that of the celebrated Arabic myth which the travels of Sindbad the sailor and of Marco Polo have made familiar to every one.

The idea of the diamonds being collected by throwing pieces of meat freshly cut from a slaughtered cow or buffalo into a valley inhabited by venomous serpents, which pieces, with diamonds sticking to them, were picked up by birds of prey and recovered from them by the diamond-seekers, probably took its rise from some sacrificial custom in connection with the worship of the sanguinary goddess of riches, whom Heyne ("*Tracts*," p. 95) alludes to under the name of Ammarwaru, as the partners of the mine. The pieces of meat cut from the victim were probably thrown about over the ground, and were naturally picked up and carried off by the birds. This I believe to have been the foundation upon which the fabulous superstructure was erected.

Beeragurh, or Wairagarh, is, as the crow flies, about 324 miles from Bijapur, northwards, and the distance might therefore have been accomplished in fifteen days.

In the name *Albenigaras* there is sufficient resemblance to the name *Beeragurh* with the Arabic prefix *Al* to make it probable that they were identical.

V. BALL

Calcutta, January 12

NOTES

WE hear that good progress is being made with the reprint of the late Prof. A. H. Garrod's scientific papers, the publication of which may be expected early in the summer. It will form a volume of about 500 octavo pages, illustrated by more than thirty plates and about 200 woodcuts. Mr. Hubert Herkomer, A.R.A., the well-known artist, has most kindly undertaken to execute an etching of the late professor, as a frontispiece to the volume. The edition will be limited to a very small number of copies only, most of which are already subscribed for. Those who wish to add their names to the list of subscribers before it is closed, are requested to communicate at once with the secretary of the Garrod Memorial Fund, 11, Hanover Square, W., who will also be glad to receive subscriptions already promised. Cheques to be crossed "London and County Bank, Hanover Square."

WRITING to the *Times* on Friday last, Mr. Sclater calls attention to the fact that the collection of birds of the late John Gould, the ornithologist, had been offered to the Trustees of the British Museum for 3000*l.*, and expressed a hope that there will be no difficulty on the part of the Treasury in sanctioning the expenditure. The collection is stated to embrace about 1500 mounted and 3800 unmounted specimens of humming-birds, being the types from which the descriptions and figures in the celebrated "Monograph of the Trochilidæ" were taken. There are besides 7000 other skins of various groups, amongst which are splendid series of the families of Toucans, Trogons, Birds of Paradise, and Ptilas.

THE following course of lectures will be given by Members of the Committee on Solar Physics appointed by the Lords of the Committee of Council on Education:—An Introductory Lecture, by Prof. Stokes, Sec. R.S.; April 6. A Lecture on the Practical Importance of Studying the Influence of the Sun on Terrestrial Phenomena, by Lieut.-General Strachey, R.E., C.S.I., F.R.S.; April 8. Two lectures on the Connection between Solar and Terrestrial Phenomena, by Prof. Balfour Stewart, F.R.S.; April 27 and 29. Six lectures on Spectroscopy in relation to Solar Chemistry, by Mr. J. Norman Lockyer, F.R.S.; May 4, 6, 11, 13, 18, and 20. Three lectures on the Photography of the Infra-red of the Spectrum in its Application to Solar Physics, by Capt. Abney, R.E., F.R.S., May 25 and 27, and June 1. The lectures will be delivered in the Lecture Theatre of the South Kensington Museum at 4 p.m. on the days stated above. Admission will be by tickets, which may be obtained, as far as there is room, on application by letter to the Secretary, Science and Art Department, South Kensington, S.W.

WE must remind our readers that the French Association will hold its next session in April at Algiers, beginning on the 14th. Those who have been enrolled members will have the advantage of half price for railway travelling, and of a special steamer from Port Vendres to Algiers. This ship will leave Marseilles on the 11th, calling at Port Vendres on the 12th. The lists were closed some time ago, but by addressing, without loss of time, M. Gariel, General Secretary of the Association, Paris, Rue de Rennes, all particulars relating to the excursions, which are very numerous and attractive, some of them including a tour in the Algerian Sahara, will be given. An industrial exhibition has been organised in Algiers, with races, *fêtes*, and inauguration of the Algerian Institute, which is directed by M. Pomel, Senator. Mr. F. Maxwell-Lyte, Hon. Foreign Secre-

tary of the Association, Science Club, Savile Row, will be happy to afford further information to intending English visitors.

THE arrangements for the International Medical and Sanitary Exhibition are progressing so satisfactorily that it promises to be the most important Sanitary Exhibition hitherto organised in this country. Applications for space are now being rapidly sent in, as the 31st inst. is the last day fixed by the Committee for receiving them. Up to March 15 applications for 984 feet had been received by the Committee. The Certificates of Merit which are to be given will be valuable awards to the public and to the successful exhibitors on account of the high character of the list of jurors, which already includes among many other the following:—Medical Section: Christopher Heath, F.R.C.S., Wm. S. Playfair, M.D., Charles Higgins, F.R.C.S., Chas. S. Tomes, F.R.S., Prof. John Marshall, F.R.S., Dr. Robert Farquharson, M.P., the president of the Pharmaceutical Society, C. H. Golding-Bird, F.R.C.S., Lionel Beale, F.R.S., W. B. Carpenter, C.B., F.R.S., J. S. Bristowe, M.D., Major Duncan, R.A., Surgeon-General Longmore, C.B., E. H. Sieveking, M.D., &c., &c.; Sanitary Section: Sir Joseph Fayrer, K.C.S.I., M.D., F.R.S., Geo. Aitchison, F.R.I.B.A., Edwd. C. Robins, F.S.A., T. Roger Smith, F.R.I.B.A., F. J. Monat, M.D., Alfred Waterhouse, A.R.A., Capt. Douglas Galton, C.B., F.R.S., Ernest Hart, M.R.C.S., Prof. Corfield, Wm. Eassie, C.E., Roger Field, M. Inst. C.E., R. Thorne Thorne M.B., Prof. Prestwich, F.R.S., &c., &c. In addition to the interest taken in the Exhibition by medical men, architects, and manufacturers, the general public have recognised the importance of the work thus initiated by the Executive Committee of the Parkes Museum of Hygiene by subscribing to the Guarantee Fund, which at the meeting of the Committee last Tuesday was reported to amount to 1026*l.* 7*s.* At this meeting the Secretary read a letter from Mr. MacCormac, the Hon. Sec. General of the International Medical Congress, forwarding the following resolution which had been unanimously passed by the Executive Council of the International Medical Congress at their last meeting:—"That the sum of fifty pounds be guaranteed to the Committee of the International, Medical, and Sanitary Exhibition, to be held at South Kensington in connection with the Parkes Museum of Hygiene, on the occasion of the International Medical Congress."

THE programme for the annual meeting of the Iron and Steel Institute on the 4th, 5th, and 6th of May has just been issued. The first item on the programme is the presidential address of Mr. Josiah T. Smith, the president-elect, whose experience as one of the earliest and for many years one of the largest steel manufacturers in this country, and as the head of the most extensive works of their kind in the world, will give his address an exceptional interest. The papers to be read cover pretty fairly the whole field of the manufacture and application of steel for shipbuilding purposes. A paper will be read by Mr. Alexander Wilson of Sheffield on the manufacture of armour plates. The subject of the manufacture of steel and steel plates will be dealt with by Mr. Sergius Kern of Russia, who will describe improvements recently practised in Russia; while the experience lately gained in the practical use of steel for shipbuilding purposes will be dealt with in a paper by Mr. Denny of Dumbarton, at whose works on the Clyde a considerable amount of steel shipbuilding has been turned out during the last two years. The important question of the relative corrosion of iron and steel will be discussed by Mr. William Parker of Lloyd's. Another paper is promised by Capt. Jones, manager of the Thomson Steel Works, Pittsburg, on the manufacture of Bessemer steel and steel rails in America.

SCIENTIFIC honours are being paid to John Duncan, the weaver botanist. Recently the Inverness Scientific Society and